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ABSTRACT

This report briefly reviews the current situation in Tanzania with respect to scientific and technical (S&T) information provision at the research and development (R&D) level, and formulates proposals to revive a workable situation for the R&D community. A presentation of the objectives of a mission to Dar es Salaam is followed by a discussion of TANRIS (Tanzania National Research Information Service) and its 1977 mandate in scientific and technical provision. A section on "Sources of Information Provision: The User Community" focuses on the University Library of Dar es Salaam, its faculties of engineering and science, information needs at the undergraduate level, and the public library sector. Finally, a series of proposals for strengthening scientific and technical information provision in Tanzania are outlined, including: a textbook provision program should be set up; continuity of approximately 500 journals in S&T in the University Library of Dar es Salaam should be secured; continuity of the most important abstract and index journals should be secured; and a current awareness service should be established as a bilateral project with Scandinavian libraries of technology, and the service should be offered to all on-going R&D projects in S&T. Nine references are included. (THC)

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SUPPORT FOR A NATIONAL RESEARCH INFORMATION SERVICE
IN TANZANIA

(Report from a visit to Dar es Salaam 16-19 April 1984)

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ABSTRACT

S&T information provision on R&D level in Tanzania has suffered considerably over the past years due to reduced allocations of foreign currency. The activities of the Tanzanian Research Information Service (TANRIS) in the National Scientific Research Council (TNSRC) has likewise been hampered with respect to the original objectives. The present situation is briefly reviewed and proposals formulated to revive a workable situation for the R&D community.

I. OBJECTIVES OF THE MISSION

It was suggested by SAREC to extend a planned mission to Addis Ababa, concerned with a bilateral program for S&T information provision, to include a visit to Dar es Salaam with similar aims. A breakdown of objectives included:

- a) to assess the size and structure of the user community for S&T literature on the post-secondary educational and R&D level
- b) to review the present system for information provision in S&T, including funding and organization of local library resources and international supply of documents
- c) propose measures for improvement of this information provision, *inter alia* by strengthening the operational role of TANRIS and by designing a bilateral program for information retrieval and back-up of photocopies for documents not available in Tanzania.

For time reasons, the area of investigation was restricted to S&T information provision on the post-secondary studies and R&D level. The areas of medicine, agriculture and related subjects have not been covered, nor extension services or information services to low- and medium-level technology industries (considered e.g. in ref.2).

II. TANRIS AND ITS MANDATE IN S&T INFORMATION PROVISION

In July 1977 a SAREC mission to Dar es Salaam (R. Hjerpe and S. Schwarz) investigated the possibilities of establishing, within TNSRC, an information and documentation centre with wide responsibilities in strengthening information provision for the R&D community in Tanzania. The proposals (ref 1) subsequently led to the appointment of a Swedish consultant for a 2-year period (R. Hjerpe) and the establishment of the nucleus for a Tanzania National Research Information Service (TANRIS). The original proposals included:

The two major tasks for TANRIS should be a) to provide information services such as compiling bibliographies on specific subjects on demand, or providing current awareness services, e.g. SDI, and b) to collect, compile and make available research information generated in Tanzania, e.g. lists of ongoing projects, research institutions, project reports.

There are three distinct roles for TANRIS to perform in ensuring the execution of these tasks: a) The role of a national focal point which is to coordinate local services and resources and provide channels for contacts with international organizations, associations and services, as well as to promote the formulation of national policies. b) The role of an operative agency providing certain services directly to users. c) The role of a funding agency which makes resources available to existing or planned local information services.

The various research information services in Tanzania need to be co-ordinated and guided by a central authority. One reason is to ensure resource sharing and adequate service and to avoid unnecessary duplication of resources and efforts. Another is to form and pursue a common policy and development plan for services. A third one is to build up a network of international contacts of common interest in different areas.

A breakdown of some duties was also given:

In performing the roles and carrying out the tasks indicated above, a Tanzanian Research Information Service (TANRIS) could:

- a) offer bibliographic information services relating to research and development;
- b) ensure the cataloguing of reports and other documents produced in Tanzania related to research and development;
- c) compile, publish and maintain inventories of
 - research and development projects;
 - research institutions and their facilities and personnel;
 - information and documentation services and resources in Tanzania;

- d) produce bibliographies of literature in areas of special interest to research and development in Tanzania;
- e) promote and facilitate the acquisition of books, journals, reports and other documents necessary for the activities of the service;
- f) sponsor seminars and conferences in the field of information science;
- g) assist TNSRC in the evaluation of research projects and proposals;
- h) accomplish any other task within its mandate pending the approval of TNSRC.

Reviewing the situation today it is noticed that some of the original plans have been implemented, but also that many tasks have been discontinued or postponed as a result of insufficient funds and lack of manpower. Also, the general resource and service situation in the country, mainly in the University central library and its branches for medicine and agriculture, and the TLS, has encountered severe setbacks through reduced funding. The premisses of a functioning decentralized network have thereby been weakened. In the present situation there is a need for strengthening the entire infrastructure of information provision, i.e. the function of TANRIS, the research library system and the international contact and supply network.

III. SOURCES OF INFORMATION PROVISION: THE USER COMMUNITY

III. 1 University Library of Dar es Salaam

The University Library covers in principle all fields of research and education of the Dar es Salaam University. The Main Campus Library has a staff of 135 out of whom about 25 are librarians and 65 library assistants. (The faculty libraries for Medicine and Agriculture are included in the overall figures of budgets). The overall budget of the University Library was for the academic year 1982/83 totally T.Shs 8.122.000 (=about 0,7 M US\$). Out of this amount 1,2 M Shs were allocated for books and periodicals. A reduction of about 17% compared to the 1981/82 budget was a result of strict measures applied by the Government. Acquisitions based on normal allocations are dominated by purchase in local book stores since foreign currency cannot be obtained for direct import. In fact no orders could be placed with overseas dealers during this period.

Substantial grants for importation of library materials have however been received from organizations such as NORAD, the British Council and Unesco, worth more than 0,5 M US\$. A few periodical titles are acquired on exchange basis. Subscription of about 1.200 journals regarded as core materials, out of which about 400 are within S&T, is hoped to be continued via e.g. SAREC funds.

The principal user group of the University Library is the university staff and students but the library offers service also to external users. A major part (about 60 %) of the 80.000 loans are "special reserve loans", i.e. textbooks. (The university accepts about 2000 new students per year of whom 640 to the faculty of Engineering and 150 to the faculty of Science). *

The figures of interlibrary loans within Tanzania and Africa are low, but the overseas loans or copy requests (from BLLD) are more than 500 annually. Assistance is given by the British Council to purchase coupons. The local photocopy service is problematic because of frequent break-downs. The equipment (Xerox 3100) has too small capacity and repair and spare parts are difficult to obtain. Equipment appropriate for 3-400.000 copies per year as well as training of a technician for the maintenance is needed. The library owns a collection of microfiches and microfilms, but has no microfiche-reader and the microfilm reader is not in operation because of need of repair.

III. 2 The faculties of Engineering and Science

Two faculties of the Dar es Salaam University relate to the field of S&T: the Faculty of Engineering and the Faculty of Science. The first mentioned faculty is divided into 40 departments of which each one can subscribe to 6 foreign journals within the faculty budget, i.e. outside the University Library acquisitions. Limitations are set because of lack of foreign currency. The journals are acquired mainly by means of German (GTZ) and Swiss Development Cooperation (DEH) aid funds. The University Library can only give limited support for external information and document supply. The faculties' acquisitions are coordinated with the Library in order to prevent

* These figures obtained in interviews can be compared with data in the Commonwealth Universities Yearbook (1981/82) where the total number of full-time students is quoted as 3287, including 565 (faculty of engineering) and 468 (faculty of science).

overlap. Some of the staff members are individual subscribers and those journals are available also to other staff members. Within the smaller Faculty of Science (6 departments) only about 20-25 journals are subscribed to. The total number of research projects in the two faculties can be estimated to a maximum of 60, somewhat depending on the definition of a "project".

Problems with photocopy equipment and printing facilities were reported. The three Rank Xerox machines bought as a part of the German input are often out of order and the University Press services have long delays.

The present university computer has a very small capacity and is "outdated" (according to faculty members interviewed). Proposals are prepared to acquire more adequate computer facilities.

III. 3 Undergraduate level

The Engineering and Technology faculties have about 1.300 students. The textbook situation was reported to be critical. Students have allocations from the University to buy materials from the book store, but also here the foreign currency problem is serious and as a rule only local stenciled materials or English translations of Russian textbooks are available. The students consequently depend heavily on the University Library's collection of textbooks, but these are often out of date and few in number so that only reading room use can be allowed. The faculties are trying to acquire remaining stocks of textbooks not bought by the students from the book store, and in fact the faculty textbook collections seem to be more up to date than those of the University Library (and also of Tanzania Library Service).

III. 4 The public library sector

The Tanzania Library Service Board (TLS) is a national institution established in 1963 by an act of Parliament. TLS was conferred wide

responsibilities in order to develop a library and documentation infrastructure in the country. It is sponsored by the government and receives Commonwealth Foundation support. TANDOC is a documentation centre within TLS with objectives to disseminate information to specialists in various sectors, mainly outside the university system. This involves question-and-answer services and preparation of abstracts. Industrial Abstracts of Tanzania is published quarterly and about 160 abstracts from 15-20 journals (about 50% from Tanzania) on technology, industry and trade are compiled annually. About 250 institutions are on the mailing list of which 50 outside the country. TANDOC lends documents or provides photocopies (3 Sh per page). TANDOC invites authors of technology-oriented documents to submit copies to the centre so that they can be included in coming issues of the journal. (A Unesco-sponsored project for development of the documentation services is reported to be in an advanced planning stage).

Two other abstract journals (Educational Abstracts for Tanzania and Agricultural Abstract for Tanzania) are produced by the centre. TLS also provides bibliographic services such as the Tanzania National Bibliography, and a union list of journals also covering the University Library.

The number of current journals at TLS has gone down dramatically. In 1976 the collection contained about 1,100 journals out of which only 20 are left (all received as gifts or on exchange). No foreign abstract journals are available.

The TLS collection of monographs contains textbooks from the Soviet Union which can be purchased with local currency. They are lent to students on two week loan basis. The total stock of TLS is about 200,000 books. A very large number of books weeded from public libraries in England are received as gifts (through the Ranfurly Library Service in London) but the material is often rather old. Only 200-300 books are published annually in Tanzania.

There seem to be substantial problems with the technical equipment. The photocopy machines are often out of order. DANIDA has provided an off-set printing equipment in 1980 which is still idle because of lack of appropriate

paper and other technical or administrative problems. The binding unit at the university is not open for TLS use.

IV. PROPOSALS FOR STRENGTHENING S&T INFORMATION PROVISION IN TANZANIA

The most serious problems regarding the S&T information provision situation in Tanzania seem to be the lack of up-to-date undergraduate textbooks and the very limited number of important scientific journals and index and abstract journals in the University Library. In order to secure reasonable study and research conditions for students and staff at the university, as well as for external users of the scientific literature, the solution of the above problems has to be given a high priority.

It is therefore proposed that

1. a textbook provision program should be set up by
SAREC (and possibly DANIDA) support 15. - 25.000 US\$/year
(A part of this might be refunded in local currency
from the book allocation given to the students
individually).
2. continuity of about 500 journals in S&T in the
University Library of Dar es Salaam should be secured.
The selection of the journals should be based on pro-
posals from the staff of the two faculties concerned.
The actual use of the journals should be monitored by
some simple mechanism as an indicator for acquisition
policy. 50.000 US\$/year
(The provision should be coordinated with allocations
from NORAD for the same purpose)
3. continuity of the most important abstract and index-
journals, like Chemical Abstracts, Engineering
Index, should be secured. 20.000 US\$/year
(Coordination with NORAD as in the last paragraph).

4. a SAREC and DANIDA supported current awareness service should be established as a bilateral project with Scandinavian libraries of technology (using the computer-based services at The Royal Institute of Technology Library, Stockholm and the National Library of Technology, Copenhagen). This service should be offered to all on-going R&D projects in S&T. It should include back-up service of photocopies when articles from journals not subscribed to by the University Library of Dar es Salaam are requested.

An estimate of

6.000 US\$

for a trial period of one year with 20 profiles.

In our opinion this would be a more cost-effective way to solve the demand for articles from not so heavily used journals than to extend the number of subscriptions mentioned above (proposal 2). The SDI profiles (starting with a relatively small number in key areas of S&T research and extending as the service becomes established) could be set up and maintained with TANRIS staff as intermediaries between the local user community and the Scandinavian libraries' documentation services. Furthermore, requests for photocopies of articles based on references in the literature or on the printouts from the current awareness service could be forwarded to the Scandinavian libraries via the TANRIS telex. In this way most requests could be satisfied within a two week period.

To support this program, TANRIS should:

1. Produce and keep up-to-date an inventory of ongoing R&D projects, including research staff, within S&T areas.
2. Produce and keep up-to-date a file of research reports within S&T produced in Tanzania (also including reports on Tanzania-based international projects).

3. Market the SDI-service and assist in defining and updating the profiles for retrieval.
4. Distribute SDI-printouts and photocopies received from the Scandinavian libraries to local project staff.
5. Channel requests from project staff for photocopies, normally by preparing and transmitting a collective telex request in codified form.
6. Evaluate SDI and back-up service and produce statistics on the most frequently requested journals as an indicator for the University Library acquisition policy.
7. In cooperation with the University Library (and with possible assistance from the Scandinavian libraries) investigate the advantages of micro-computer applications in current administrative processes of library and information services. The provision of two microcomputers (for TANRIS and the University Library respectively) with printers and adequate software packages might be considered in a later phase of the cooperation project. (Note that UNESCO is presently developing this type applications for a wide range of microcomputers.)

For further details of this type of bilateral co-operation project, cf. the recent report ref 9.

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- 1) National Scientific Research Council
Professor A.S. Msangi (Director, UTAFITI)
Mr. I.A.N Munisi (TANRIS)
Mr. H.M. Nguli
- 2) Tanzania Library Services Board
Mr Ilomo (Deputy Head)
- 3) University library of Dar es Salaam
Miss E.V. Ciduo, Chief Librarian
Mr J.M. Newa, Acquisitions Librarian
- 4) University of Dar es Salaam
 - a) Faculty of Engineering
Professor Lwakabamba, Dean
 - b) Faculty of Science
Professor Mainoya, Dean

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